

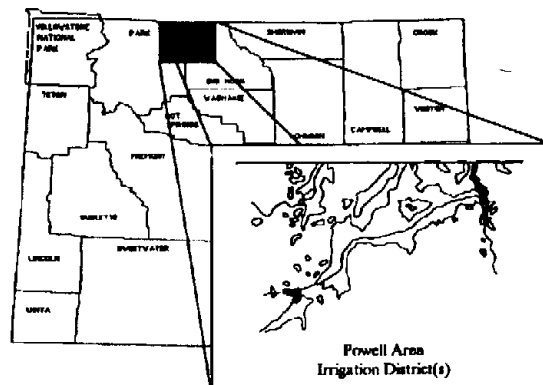
Enterprise Budget

Alfalfa Establishment, Powell Area

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The enterprise budget presented in this report estimates typical costs and returns for establishing alfalfa hay in the Powell area of Wyoming. It should only be used as a guide; it is not representative of an actual farm. The major assumptions used in this budget are presented below.

LAND

The budget is based on a 600-acre farm, with 10 acres of alfalfa established with a barley nurse crop each year. Other enterprises included on this farm are: alfalfa hay, 30 acres; dry beans, 90 acres; malting barley, 230 acres; and sugar beets, 240 acres. The farm operator owns 200 acres and leases 400 acres. Owned land is valued at \$900 per acre and leased land is rented on a crop-share basis. A one-third share of gross revenue is paid to the landowner. In turn, the landowner pays for one-third of the fertilizer and crop insurance for the crop. The landowner is also responsible for the costs associated with land, water, and chemicals for weed control on ditches and roads.

LABOR

Labor on this farm is provided by the operator and two full-time employees. All labor, including operator labor, is valued at \$5.50 per hour. However, operator labor is a non-cash cost. Some part-time labor may be used on the farm for labor-intensive operations such as harvest.

CAPITAL

The operator provides 75 percent of the long-term capital and 20 percent of the operating capital for this enterprise. Twenty-five percent of the long-term capital is borrowed at an interest

rate of 10.8 percent APR (Annual Percentage Rate). Eighty percent of the operating capital is borrowed at an interest rate of 12.5 percent APR. The interest rates used here are for short-term planning. Real interest rates must be used for accurate long-term planning.

MACHINERY AND EQUIPMENT

A complete list of the machinery used for this enterprise and the associated machinery values are shown in Table 2. All machinery is assumed to be half depreciated. Estimated machinery costs are shown in Table 3. Table 3 lists only the machinery used for establishing alfalfa. Other machines used elsewhere on the farm are not included in the table. However, the machinery listed may also be used for other enterprises on the farm.

ESTABLISHMENT COSTS

This enterprise budget estimates the cost of establishing alfalfa hay with a nurse crop of malting barley. The cost of establishing alfalfa is calculated by comparing the alfalfa establishment budget to the malting barley budget. This cost is then included in the budget for alfalfa hay production. It is entered as a perennial crop charge in the fixed cost section of the alfalfa hay budget. Costs of establishing the alfalfa stand are broken down in Table 1.

OPERATIONS

Operations related to production of the malting barley nurse crop and alfalfa establishment are listed in chronological order in the enterprise budget. Ground preparation begins in early spring to ensure the crop will be ready for

irrigation in late April. The barley is typically harvested in late July-early August.

This budget differs from straight malting barley in a couple of significant ways. The first is that the crop must be irrigated two additional times. The first irrigation comes before and the second after the barley harvest. This provides the added water required by the alfalfa stand. The second difference is that the barley straw is baled and removed from the field. For straight malting barley, the straw is left in the field after harvest.

ENTERPRISE BUDGET

Economic costs and returns of alfalfa establishment are summarized by operation in the enterprise budget. Costs are broken down by stage of production. General overhead has been calculated at 5 percent and operator management is calculated at 10 percent of all cash costs.

Costs and returns for the crop share-lease arrangement are also summarized in the budget. Costs paid in whole or in part by the landowner are listed in the landowner column. The tenant column describes the tenant's share of the

appropriate cost and return items. The far right column has been provided to calculate changes from this base budget for your operation.

SUMMARY

Gross income for the alfalfa establishment enterprise is estimated at \$370 per acre. Total variable costs are estimated at \$277.21 per acre, with total fixed costs at \$167.53 per acre. The total of all costs for alfalfa establishment is estimated at \$444.74 per acre, leaving a net projected return of (\$74.74) per acre. The net projected returns for the share-lease arrangement are (\$37.98) per acre for the landowner and (\$36.76) per acre for the tenant. As shown in Table 1, the data in this budget are used to calculate the cost of establishing the alfalfa stand. These costs are spread over a three-year stand life for 30 acres of growing alfalfa.

Table 1. Alfalfa Establishment Costs Per Acre of Growing Alfalfa

	<u>Owner- Operator</u>	<u>Land- owner</u>	<u>Tenant</u>
Alfalfa Seed	\$27.00	\$-----	\$27.00
2, 4-DB Spray (over 2, 4-D used on malt barley)	10.35	5.18	5.17
Irrigate Alfalfa #1	8.17	5.41	2.76
Bale Straw	7.39	-----	7.39
Custom Stack Straw	15.62	-----	15.62
Irrigate Alfalfa #2	8.17	5.41	2.76
Overhead and Management (over malt barley alone)	11.27	-----	11.27
Operating Interest (over malt barley alone)	1.74	-----	1.74
Machinery and Equipment (over malt barley alone)	5.88	-----	5.88
Irrigation (over malt barley alone)	7.17	7.17	-----
TOTAL ESTABLISHMENT COSTS	\$102.76	\$23.17	\$79.59
(per acre of growing alfalfa)			

$\$102.76/3 \text{ year stand life} = \$34.25/\text{year}$ 10 acres of establishment alfalfa per 30 acres of growing alfalfa
 $(10/30) = 33.33\%$ $\$34.25 \times 33.33\% = \$11.42/\text{ac}$ depreciation charge.

Depreciation per acre of growing alfalfa	\$11.42
Intermediate Interest	+ 2.00

TOTAL ESTABLISHMENT COST per acre of growing alfalfa	\$13.42
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Alfalfa Establishment

Economic Costs and Returns Alfalfa Establishment - Powell Area 10-Acre Enterprise

RETURNS SECTION

GROSS INCOME	Description	Quantity	Unit	\$/Unit	Owner- Operator 100% Total	Land- owner 33% Total	Tenant 67% Total	Your Total Return
BARLEY STRAW		1.25	ton	35.00	\$43.75	\$14.58	\$29.17	
MALTING BARLEY		45.00	cwt	7.25	326.25	108.74	217.51	
Total GROSS Income					\$370.00	\$123.32	\$246.68	

VARIABLE COSTS SECTION

		----- M a t e r i a l s -----					Materials					
VARIABLE COST	Description	Dollars Per Acre		Description	# Units	Unit		Total Cost	Owner-	Land-	Tenant	Your
		LABOR	MACHINERY		Per Acre	Type	\$/unit	Per Acre	Operator	owner		Cost
=====												
ANNUAL												
	METAL SHOP								2.16	----		2.16
	MACHINE SHED								0.30	----		0.30
	TRAILER HOUSE								3.19	----		3.19
	GRAIN BIN #1								0.14	----		0.14
	GRAIN BIN #2								0.14	----		0.14
	FENCES								0.05	----		0.05
	1/2 TON PICKUP	1.20	0.79						1.99	----		1.99
	1/2 TON - 4 X 4 PICKUP	1.20	0.81						2.01	----		2.01
	3/4 TON PICKUP	1.20	0.83						2.03	----		2.03
	MINI PICKUP	1.20	0.52						1.72	----		1.72
	LOADER WORK	0.20	0.23						0.43	----		0.43
	GENERAL OVERHEAD								11.15	----		11.15
	OPERATOR MANAGEMENT								22.31	----		22.31

Total ANNUAL									\$47.62	\$0.00		\$47.62

PREPLANT-SPRING												
SPREAD FERTILIZER	Operation	0.59	0.32	11-52-0	0.057	ton	272.00	36.52	37.43	12.17		25.26
				34-0-0	0.113	ton	186.00					
FIELD CULTIVATE	Operation	1.01	1.60						2.61	----		2.61
ROLLER HARROW	Operation	0.76	1.63						2.39	----		2.39

Total PREPLANT-SPRING									\$42.43	\$12.17		\$30.26

PLANT												
CROP INSURANCE BARLEY									10.00	3.33		6.67
HAUL BARLEY SEED	Operation	0.11	0.10						0.21	----		0.21
PLANT BARLEY/ALF	Operation	1.77	2.06	BARLEY SEED	0.950	cwt	14.50	40.78	44.61	----		44.61
				ALFALFA SEED	12.000	lb	2.25					

Total PLANT									\$54.82	\$3.33		\$51.49

GROW BARLEY												
CORRUGATE	Operation	1.21	1.62						2.83	----		2.83
OPEN DITCHES	Operation	0.13	0.12						0.25	----		0.25
PULL ENDS	Operation	0.18	0.11						0.29	----		0.29
IRRIGATE BARLEY	Operation	6.06	0.00	CANVAS DAMS	1.000	acre	0.50	4.38	10.44	3.88		6.56
				CONCRETE DITCH			3.02					
				DIRT DITCH			0.35					
				GATED PIPE			0.51					
SPRAY BARLEY/ALF	Operation	0.00	0.00	2,4-DB ESTER	0.375	gal	32.73	14.77	14.77	----		14.77
				CUSTOM SPRAY	1.000	acre	2.50					
SPRAY DITCHES	Operation	0.08	0.02	CURTAIL	0.005	gal	27.38	0.14	0.24	0.14		0.10

Alfalfa Establishment

VARIABLE COSTS SECTION

		Dollars Per Acre		M a t e r i a l s			Materials		Land-owner	Tenant	Your Cost
VARIABLE COST	Description	LABOR	MACHINERY	Description	# Units Per Acre	Unit Type	\$/unit	Total Cost Per Acre	Operator		
IRRIGATE BARLEY	Operation	2.76	0.00	CONCRETE DITCH			3.02	3.88	6.64	3.88	2.76
				DIRT DITCH			0.35				
				GATED PIPE			0.51				
IRRIGATE BARLEY	Operation	2.76	0.00	CONCRETE DITCH			3.02	3.88	6.64	3.88	2.76
				DIRT DITCH			0.35				
				GATED PIPE			0.51				
SPRAY DITCHES	Operation	0.08	0.02	CURTAIL	0.005	gal	27.38	0.14	0.24	0.14	0.10
IRRIGATE BARLEY	Operation	2.76	0.00	CONCRETE DITCH			3.02	3.88	6.64	3.88	2.76
				DIRT DITCH			0.35				
				GATED PIPE			0.51				
IRRIGATE BARLEY	Operation	2.76	0.00	CONCRETE DITCH			3.02	3.88	6.64	3.88	2.76
				DIRT DITCH			0.35				
				GATED PIPE			0.51				
Total GROW BARLEY									\$55.62	\$19.68	\$35.94
GROW ALFALFA											
IRRIGATE ALFALFA	Operation	2.76	0.00	CONCRETE DITCH			4.20	5.41	8.17	5.41	2.76
				DIRT DITCH			0.49				
				GATED PIPE			0.72				
Total GROW ALFALFA									\$8.17	\$5.41	\$2.76
HARVEST											
CLOSE DITCHES	Operation	0.13	0.12						0.25	----	0.25
SWATH	Operation	0.88	1.64						2.52	----	2.52
THRESH W/ PICKUP	Operation	2.42	11.07						13.49	----	13.49
HAUL BARLEY:											
2-TON TRUCK	#1	1.40	1.33						2.73	----	2.73
2-TON TRUCK	#2	1.40	1.36						2.76	----	2.76
TANDEM TRUCK	#1	1.40	1.34						2.74	----	2.74
TANDEM TRUCK	#2	1.40	1.34						2.74	----	2.74
Total HARVEST									\$27.23	\$0.00	\$27.23
POST-HARVEST											
AUGER BARLEY	Operation	0.58	0.32						0.90	----	0.90
BALE	Operation	1.18	1.32	BALING TWINE	0.210	bale	23.30	4.89	7.39	----	7.39
STACK BALES	CUSTOM								15.62	----	15.62
Total POST-HARVEST									\$23.91	\$0.00	\$23.91
GROW ALFALFA											
IRRIGATE ALFALFA	Operation	2.76	0.00	CONCRETE DITCH			4.20	5.41	8.17	5.41	2.76
				DIRT DITCH			0.49				
				GATED PIPE			0.72				
Total GROW ALFALFA									\$8.17	\$5.41	\$2.76
Operating Interest									9.24	----	9.24
Total VARIABLE COST									\$277.21	\$46.00	\$231.21
GROSS INCOME minus VARIABLE COST									\$92.79	\$77.32	\$15.47

Alfalfa Establishment

FIXED COSTS SECTION

FIXED COST Description	Unit	Owner- Operator	Land- owner	Tenant	Your Cost
Machinery and Equipment:					
Taxes	Acre	1.88	----	1.88	
Insurance	Acre	3.86	----	3.86	
Long-Term Interest	Acre	26.40	----	26.40	
Depreciation	Acre	20.10	----	20.10	
Buildings and Improvements:					
Taxes	Acre	0.97	0.97	----	
Insurance	Acre	1.26	1.26	----	
Long-Term Interest	Acre	13.37	13.37	----	
Depreciation	Acre	4.85	4.85	----	
Irrigation:					
Taxes	Acre	0.57	0.57	----	
Insurance	Acre	1.14	1.14	----	
Long-Term Interest	Acre	11.82	11.82	----	
Depreciation	Acre	6.52	6.52	----	
Land:					
Taxes	Acre	5.50	5.50	----	
Long-Term Interest	Acre	69.30	69.30	----	
Total FIXED Cost		\$167.53	\$115.30	\$52.23	
Total of ALL Cost		\$444.74	\$161.30	\$283.44	
NET PROJECTED RETURNS		(\$74.74)	(\$37.98)	(\$36.76)	

Table 2. Machinery Cost and Use Assumptions

Resource Name	1990 List Price	List Price in Year Acquired	Current Market Value	Salvage Value	Useful Life Years	Useful Life Hr or Mi	Remaining Life Hr or Mi	Total Defined Annual Use
125 HP TRACTOR #1	\$62,822	\$44,958	\$22,774	\$11,240	12	4,488 hr	2,244 hr	374 hr
125 HP TRACTOR #2	62,822	44,958	22,774	11,240	12	5,364 hr	2,682 hr	447 hr
250 CC ATV	3,140	1,989	905	588	10	140 hr	70 hr	14 hr
80 HP TRACTOR	35,433	27,436	13,469	5,806	14	4,508 hr	2,254 hr	322 hr
COMBINE 150 BU	95,012	62,515	29,104	9,477	18	2,016 hr	1,008 hr	112 hr
SWATHER 15 FT	33,690	30,087	11,135	8,887	10	440 hr	220 hr	44 hr
ATV BOOM SPRAYER	2,300	1,932	879	674	8	112 hr	56 hr	14 hr
CORRUGATOR 9-ROW	2,520	1,918	873	567	10	510 hr	255 hr	51 hr
DITCHER V-TYPE 3-POINT	3,550	2,758	1,195	690	12	216 hr	108 hr	18 hr
END PULLER 3-ROW	1,175	628	250	157	12	276 hr	138 hr	23 hr
FIELD CULTIVATOR 18 FT	5,358	4,090	2,425	1,023	12	576 hr	288 hr	48 hr
FRONT LOADER 2-TON	7,323	5,333	2,950	1,575	10	200 hr	100 hr	20 hr
GRAIN DRILL 12 FT	8,516	8,377	2,995	2,474	10	600 hr	300 hr	60 hr
PTO GRAIN AUGER 40' X 6"	1,542	1,754	798	439	12	240 hr	120 hr	20 hr
PTO TWINE BALER	14,474	11,742	4,811	3,468	10	270 hr	135 hr	27 hr
REAR BLADE 8 FT	1,090	721	525	180	12	216 hr	108 hr	18 hr
ROLLER HARROW	15,132	14,415	6,350	5,944	6	1,062 hr	531 hr	177 hr
1/2 TON PICKUP 2WD	12,950	7,647	3,650	1,912	12	60,000 mi	30,000 mi	5,000 mi
1/2 TON PICKUP 4WD	17,400	10,151	8,725	2,538	12	60,000 mi	30,000 mi	5,000 mi
2-TON TRUCK #1	38,500	25,111	13,650	3,807	18	83,700 mi	41,850 mi	4,650 mi
2-TON TRUCK #2	38,500	25,111	13,650	3,807	18	81,000 mi	40,500 mi	4,500 mi
3/4 TON PICKUP 2WD	14,950	8,917	4,250	2,229	12	60,000 mi	30,000 mi	5,000 mi
MINI PICKUP	9,070	6,196	2,463	1,549	12	60,000 mi	30,000 mi	5,000 mi
TANDEM TRUCK #1	73,570	49,954	21,500	7,573	18	80,424 mi	40,212 mi	4,468 mi
TANDEM TRUCK #2	73,570	49,954	21,500	7,573	18	80,424 mi	40,212 mi	4,468 mi

Table 3. Machinery Cost Calculations

Machine/Vehicle	Unit	COSTS PER HOUR or MILE					TOTAL Cost per Hr or Mi	Hr or Mi per Acre	ENTERPRISE		
		----Variable----		-----Fixed-----					-----Costs per Acre-----		
		Fuel & Lube	Repair & Maint.	Depr. & Interest	Taxes & Insur.				Variable	Fixed	TOTAL
125 HP TRACTOR #1	\$/Hr	\$5.65	\$3.05	\$7.48	\$0.91	\$17.09	0.20	\$1.74	\$1.68	\$3.42	
125 HP TRACTOR #2	\$/Hr	5.65	3.33	6.26	0.76	16.00	0.50	4.53	3.54	8.07	
250 CC ATV	\$/Hr	1.11	0.02	8.03	0.97	10.13	0.02	0.02	0.20	0.22	
80 HP TRACTOR	\$/Hr	3.61	1.85	4.93	0.63	11.02	0.44	2.41	2.45	4.86	
COMBINE 150 BU	\$/Hr	7.05	20.63	28.41	3.90	59.99	0.40	11.07	12.92	23.99	
SWATHER 15 FT	\$/Hr	6.50	6.64	33.04	3.80	49.98	0.13	1.64	4.61	6.25	
ATV BOOM SPRAYER	\$/Hr	0.00	0.70	9.03	0.94	10.67	0.02	0.02	0.22	0.24	
DITCHER V-TYPE 3-POINT	\$/Hr	0.00	0.30	8.50	1.00	9.80	0.02	0.01	0.17	0.18	
END PULLER 3-ROW	\$/Hr	0.00	0.04	1.38	0.16	1.58	0.03	0.00	0.04	0.04	
FIELD CULTIVATOR 18 FT	\$/Hr	0.00	1.08	6.59	0.76	8.43	0.14	0.15	1.05	1.20	
FRONT LOADER 2-TON	\$/Hr	0.00	0.59	20.46	2.21	23.26	0.03	0.02	0.75	0.77	
GRAIN DRILL 12 FT	\$/Hr	0.00	3.11	6.50	0.75	10.36	0.25	0.78	1.81	2.59	
PTO GRAIN AUGER 40' X 6"	\$/Hr	0.00	0.09	5.12	0.60	5.81	0.08	0.01	0.47	0.48	
PTO TWINE BALER	\$/Hr	0.00	1.70	24.14	2.67	28.51	0.17	0.28	4.48	4.76	
REAR BLADE 8 FT	\$/Hr	0.00	0.08	3.84	0.44	4.36	0.02	0.00	0.08	0.08	
ROLLER HARROW	\$/Hr	0.00	2.60	5.27	0.54	8.41	0.13	0.33	0.73	1.06	
1/2 TON PICKUP 2WD	\$/Mi	0.09	0.05	0.16	0.03	0.33	5.60	0.78	1.06	1.84	
1/2 TON PICKUP 4WD	\$/Mi	0.09	0.05	0.42	0.05	0.61	5.60	0.78	2.63	3.41	
2-TON TRUCK #1	\$/Mi	0.22	0.19	0.57	0.06	1.04	3.52	1.44	2.22	3.66	
2-TON TRUCK #2	\$/Mi	0.22	0.19	0.59	0.07	1.07	3.27	1.34	2.16	3.50	
3/4 TON PICKUP 2WD	\$/Mi	0.09	0.06	0.18	0.04	0.37	5.60	0.84	1.23	2.07	
MINI PICKUP	\$/Mi	0.06	0.03	0.10	0.02	0.21	5.60	0.50	0.67	1.17	
TANDEM TRUCK #1	\$/Mi	0.16	0.25	0.91	0.09	1.41	3.27	1.34	3.27	4.61	
TANDEM TRUCK #2	\$/Mi	0.16	0.25	0.91	0.09	1.41	3.27	1.34	3.27	4.61	

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